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DELAWARE LEVEL 2, 3, & 4 INTERCONNECTION APPLICATION/AGREEMENT

With Terms and Conditions for Interconnection
For a Level 2, 3, & 4 Review of Small Generator Facilities Less than or Equal to 10 MW
(Net Energy Metering up to 2 MW)

The Green Power Connection™ Team
Delmarva Power
A PHI Company
(866) 634-5571 - Phone
gpc-north@pepcoholdings.com
Mailing Address: 5 Collins Drive, Mail Stop 84CP22, Carneys Point, NJ 08069

(Send applications via Email or Mail to DPL, GPC Team)

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DELAWARE STANDARD AGREEMENT FOR INTERCONNECTION OF SMALL GENERATOR FACILITIES WITH A CAPACITY GREATER THAN 10 kW AND LESS THAN OR EQUAL TO 10 MW[1]

This agreement ("Agreement") is made and entered into this 19th day of January by and between Willard Pierce, ("Interconnection Customer,") a Homeowner[2] organized and existing under the laws of the State of Delaware, and Delmarva Power & Light Company, ("Electric Distribution Company", (EDC)) a Corporation existing under the laws of the State of Delaware. Interconnection Customer and EDC each may be referred to as a "Party," or collectively as the "Parties."

Recitals:

Whereas, Interconnection Customer is proposing to, install or direct the installation of a Small Generator Facility, or is proposing a generating capacity addition to an existing Small Generator Facility, consistent with the Interconnection Request completed by Interconnection Customer on _____; and

Whereas, the Interconnection Customer will operate and maintain, or cause the operation and maintenance of the Small Generator Facility; and

Whereas, Interconnection Customer desires to interconnect the Small Generator Facility with EDC's Electric Distribution System.

Now, therefore, in consideration of the premises and mutual covenants set forth herein, and other good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, the Parties covenant and agree as follows:

1. Scope and Limitations of Agreement

1.1. This Agreement shall be used for all approved Level 2, Level 3 and Level 4 Interconnection Requests according to the procedures set forth in the Delaware Standard Small Generator Interconnection Rules, Title 26 - Public Utilities – Chapter 10. Electric Utility Restructuring §1014.

1.2. This Agreement governs the terms and conditions under which the Small Generator Facility will interconnect to, and operate in Parallel with, the EDC's Electric Distribution System.

1.3. This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power.

[1] Applicable for non-inverter based units less than 10 kW. Up to 2 MW for Net Energy Metering.
[2] Choices: Individual, Sole Proprietorship, Partnership, Corporation, Limited Liability Company, Municipal Agency, State Agency, Federal Agency, or Non-Profit.

EDC's Operating Representative: _____

Attention: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____

10.4. Changes to the Notice Information: Either Party may change this notice information by giving five business days written notice prior to the effective date of the change.

11. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Interconnection Customer:

Signature: Willard J Pierce

Name: Willard Pierce

Title: Homeowner

Date: 1/7/18

For EDC:

Signature: Lakeisha Harris

Name: Lakeisha Harris

Title: Acct Rep

Date: 03/16/2018

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PART 1

DELAWARE LEVEL 2, 3, & 4 INTERCONNECTION APPLICATION & AGREEMENT

With Terms and Conditions for Interconnection

(Review of Small Generator Facilities Less Than or Equal to 10 MW[3])

(Application & Conditional Agreement – to be completed prior to installation)

INTERCONNECTION CUSTOMER CONTACT INFORMATION

Customer Name: Willard Pierce

Mailing Address: 205 Single Ave

City: New Castle State: DE Zip Code: 19720

Contact Person/Authorized Agent (If other than above): _____

Mailing Address (If other than above): 205 Single Ave

Telephone (Daytime): 3024442499 (Evening): _____

Fax Number: _____ E-Mail Address (Required): leonorasanders@yahoo.com

Alternate Project Contact Information: (if different from Customer-Generator above)

Alternate Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): _____ (Evening): _____

Fax Number: _____ E-Mail Address: _____

If an email is provided for your alternate contact, that contact will receive all email communications.

FACILITY INFORMATION

Facility Address: 205 Single Ave

City: New Castle State: DE Zip Code: 19720

DPL Account #: 5500 3394 487 Meter #: NXA076466705 (Required by DPL)

Current Annual Energy Consumption (optional): 11326 kWh

Check if this Facility (building) is, or is going to be, NEW CONSTRUCTION: ☐

[3] Up to 2 MW for Net Energy Metering.

Requested Procedure Under Which to Evaluate Interconnection Request:[4]
Please indicate below which review procedure applies to the interconnection request.

☒ **Level 2 -** Certified interconnection equipment with an aggregate electric nameplate capacity less than or equal to 2 MW. Indicate type of certification below. (Application fee amount is $50 plus $1 per KW).

- ☒ Lab certified - tested to IEEE 1547.1 and other specified standards by a nationally recognized testing laboratory and is appropriately labeled.
- ☐ Field approved – identical interconnection has been approved by an EDC under a Level 4 study review process within the prior 36 months of the date of this interconnection request.

☐ **Level 3 –** Small generator facility does not export power. Nameplate capacity rating is equal to less than 50KW if connecting to area network or equal to or less than 10 MW if connecting to a radial distribution feeder. (Application fee amount is $100 plus $2 per KW).

☐ **Level 4 –** Nameplate capacity rating is less than or equal to 10 MW and the small generator facility does not qualify for a Level 1, Level 2 or Level 3 review or, the small generator facility has been reviewed but not approved under a Level 1, Level 2 or Level 3 review. (Application fee amount is $100 plus $2 per KW, to be applied toward any subsequent studies related to this application).

Field Approved Equipment:
If the field approved equipment box is checked above, please provide the estimated completion date in the section that follows, then sign the application and return it with the following information that is required for review of Level 2 field approved small generator facilities:

- A copy of the certificate of completion for the previously approved small generator facility,
- A written statement indicating that the interconnection equipment being proposed is identical, except for minor equipment modification, to the one previously approved.

Note: You do not have to complete the rest of the application if field approved equipment is being proposed.

Intent of Generation:

☒ Net Meter (Unit will operate in parallel and will export power pursuant to the Net Energy Metering Rider)
☐ Aggregated Net Meter (Unit will operate in parallel and will export power pursuant to the Aggregated Net Energy Metering Rider)
☐ Community Energy Facility (Unit will operate in parallel and will export power pursuant to the Community Energy Facility Rider)
☐ Cogeneration and Small Power Production (Qualifying Facility – Rate X or Rate EP)
☐ Wholesale Market Transaction (Unit will operate in parallel and participate in PJM market(s) pursuant to a PJM Wholesale Market Participation Agreement)
☐ Offset Partial Load (Unit will operate in parallel, but will not export power at any time to EDC)
☐ Back-up Generation (Units that temporarily parallel for more than 100 milliseconds) (Note: Backup units that do not operate in parallel for more than 100 milliseconds do not need an interconnection agreement.)

[4] **Note:** Descriptions for interconnection review categories do not list all criteria that must be satisfied. For a complete list of criteria, please refer to the Delaware Standard Small Generator Interconnection Procedures, Title 26 - Public Utilities – Chapter 10. Electric Utility Restructuring §1014.

Estimated Commissioning Date: 2/25/2018

Energy Source: Solar Prime Mover: Photovoltaic

Type of Application: Initial ☒ Addition/Upgrade ☐ [5]

Initial Rating: DC Generator Total[6] Nameplate Rating: 11.70 (kW),
AC Inverter Total[7] Rating 10.20 kW (kW),
AC System Design Total Capacity[8]: 10.31 (kW) ____ (kVA)

Added Rating (**if upgrade**): DC Generator Total Nameplate Rating: _____ (kW),
AC Inverter Total Rating _____ (kW),
AC System Design Total Capacity: _____ (kW) ____ (kVA)

Total Rating (**if upgrade**): DC Generator Total Nameplate Rating: _____ (kW),
AC Inverter Total Rating _____ (kW),
AC System Design Total Capacity: _____ (kW) ____ (kVA)

Generator (or PV Panel) Manufacturer, Model #[9]: SolarCity Certified Advantage Module 300

A copy of Generator nameplate and Manufacturer's Specification Sheet may also be submitted

Number of Generators (or PV Panels): 39

Type of Tracking if PV: Fixed ☒ Single Axis ☐ Double Axis ☐

Array Azimuth: 211, 31 ° Array Tilt: 27, 27 °

Shading Angles at E,120°,150°,S,210°,240°,W: _____ ° (Separate with comas)

Inverter Manufacturer[10]: ABB Model Number(s) of Inverter[11]: PVI-6000-OUTD-L PVI-4.2-OUTD-S-US

Number of Inverters[12]: 2 Inverter Type: Forced Commutated ☐ Line Commutated ☒

Ampere Rating: 20 $Amps_{AC}$, Number of Phases: ☒ 1 ☐ 3

Nominal Voltage Rating: 240 V_{AC}, Nominal DC Voltage: 259.28 V_{DC},

Power Factor: 99 %, Frequency: 60 Hz, Efficiency: 96.5 (%)

DPL Taggable, Lockable, Accessible Disconnect[13]: ☒ Yes ☐ No,

If Yes, Location: Outside near meter

One-line Diagram Attached (Required): ☒ Yes ☐ No,

Site Plan Attached (Required): ☒ Yes ☐ No

Do you plan to export power?[14] ☒ Yes ☐ No, If Yes, Estimated Maximum: 10.31 kW_{AC}

Estimated Gross Annual Energy Production: 9470.0825 kWh

[5] Initial if first time generator request. Addition/Upgrade if this is an add-on to a previously approved system.
[6] Sum of all generators or PV Panels
[7] Sum of all inverters
[8] This will be your system design capacity based upon your unique system variables.
[9] If more than one type, please list all manufactures and model numbers.
[10] If more than one manufacture, please list all.
[11] If more than one model number, please list all.
[12] Attach additional sheets as necessary in the event of multiple inverters of various types/sizes
[13] This is strongly recommended by the utility. Best practice is to have an externally accessible, lockable, disconnect with visible open/close connection and to have appropriate signage on the disconnect, such as 'Solar PV AC Disconnect' (preferably red) and on the meter housing 'Caution, Solar Electric System'" (preferably yellow). If the disconnect is not in the immediate vicinity of the meter, please include the disconnect location on the meter signage. This enables the utility and first responders to more quickly deal with an emergency situation.

Is the inverter IEEE/UL1741 lab certified? Yes ☑ No ☐
(If yes, attach manufacturer's cut sheet showing listing and label information from the appropriate listing authority, e.g. UL 1741 listing. If no, facility is not eligible for Level 1 Application.)

Does the Customer own their own transformer, but primary service is from DPL? ☐Yes ☒No
If yes, complete the following electric service information for customer facility where generator will be interconnected:

Capacity: 150 Amps Voltage: 240 Volts
Type of Service: ☒ Single Phase ☐ Three Phase
If 3 Phase Transformer, Indicate Type
Primary Winding ☐ Wye ☐ Delta ☐ Grounded Wye
Secondary Winding ☐ Wye ☐ Delta ☐ Grounded Wye
Transformer Size: _____ kVA Impedance: _____ %

Generator & Prime Mover Data (if applicable):
Energy Source: Solar Energy Converter Type: Photovoltaic
Generator Size(s) (kW or kVA): _____ Number of Generator Units: 2
Total Electrical Generation Capacity (kW or kVA): 10.31
Generator Type: ☐ Induction ☑ Inverter ☐ Synchronous ☐ Other: _____

Small Generator Facility Information (if applicable):
List interconnection components/system(s) to be used in the Small Generation Facility that are lab certified (required for Level 2 Interconnection requests only).

Component/System		NRTL Providing Label & Listing
1. ABB	PVI-6000-OUTD-US-Z-A-RGM PVI-4.2-OUTD-S-US-Z-A-RGM	UL 1741
2. SolarCity Certified	Advantage Module 300	UL 1703
3.		
4.		
5.		

Please provide copies of manufacturer brochures or technical specifications

Energy Production Equipment/Inverter Information:
☐ Synchronous ☐ Induction ☑ Inverter ☐ Other _____
Rating: 10.20 kW kW Rating: _____ kVA
Rated Voltage: 240 Volts
Rated Current: 48 Amps
System Type Tested (Total System): ☑ Yes ☐ No; attach product literature

For Synchronous Machines: (Note: Contact EDC to determine if all the information requested in this section is required for the proposed small generator facility.)
Manufacturer: _____
Model No. _____ Version No. _____
Submit copies of the Saturation Curve and the Vee Curve

[14] Yes, if your expected maximum output of the inverter (kW AC) is greater than the lowest load you anticipate at your facility during maximum PV output (kW). The difference would be the amount you may export.

☐ Salient ☐ Non-Salient
Torque: _____ lb-ft Rated RPM: _____ Field Amperes: _____ at rated generator voltage and current and _____% PF over-excited
Type of Exciter: _____
Output Power of Exciter: _____
Type of Voltage Regulator: _____
Locked Rotor Current: _____ Amps Synchronous Speed: _____RPM
Winding Connection: _____ Min. Operating Freq./Time: _____
Generator Connection: ☐ Delta ☐ Wye ☐ Wye Grounded
Direct-axis Synchronous Reactance: (Xd) _____ohms
Direct-axis Transient Reactance: (X'd) _____ohms
Direct-axis Sub-transient Reactance: (X"d) _____ohms
Negative Sequence Reactance: _____ ohms
Zero Sequence Reactance: _____ ohms
Neutral Impedance or Grounding Resister (if any): _____ ohms

For Induction Machines: (Note: Contact EDC to determine if all the information requested in this section is required for the proposed small generator facility.)
Manufacturer: _____
Model No. _____ Version No. _____
Locked Rotor Current: _____ Amps
Rotor Resistance (Rr)_____ohms Exciting Current ____Amps
Rotor Reactance (Xr) _____ohms Reactive Power Required: _____
Magnetizing Reactance (Xm) _____ohms ___VARs (No Load)
Stator Resistance (Rs) _____ohms ___VARs (Full Load)
Stator Reactance (Xs) _____ohms
Short Circuit Reactance (X"d) _____ohms
Phases: ☐ Single ☐ Three-Phase
Frame Size: _____ Design Letter: ____ Temp. Rise: _____ ^{o}C.

Reverse Power Relay Information (Level 3 Review Only):
Manufacturer:_____
Relay Type: _____Model Number:_____
Reverse Power Setting:_____
Reverse Power Time Delay (if any):_____

ADDITIONAL INFORMATION
DC Source / Prime Mover:
Rating: 11.7 kW Rating: _____ kVA
Rated Voltage: 240 Volts
Open Circuit Voltage (If applicable): _____Volts
Rated Current: 92.6 Amps
Short Circuit Current (If applicable): _____Amps

EQUIPMENT INSTALLATION CONTRACTOR Owner (Customer) Installed: ☐Yes ☒No

Contractor Name: SolarCity DBA Tesla Energy

Mailing Address: 6671 Las Vegas Blvd South, Suite 300

City: Las Vegas State: NV Zip Code: 89119

Contact Person:

Telephone (Daytime): 702-703-8951 (Evening):

Fax Number: E-Mail Address (Required): Interconnection.DE@tesla.com

ELECTRICAL CONTRACTOR

Electrical Contractor Name: SolarCity DBA Tesla Energy

Mailing Address: 6671 Las Vegas Blvd South, Suite 300

City: Las Vegas State: NV Zip Code: 89119

Contact Person: Interconnection Admin

Telephone (Daytime): 702-703-8951 (Evening):

Fax Number: E-Mail Address: Interconnection.DE@tesla.com

License number: T1-0005810

INSURANCE DISCLOSURE

The attached terms and conditions contain provisions related to liability and indemnification, and should be carefully considered by the interconnection customer. The interconnection customer is not required to obtain general liability insurance coverage as a precondition for interconnection approval; however, the interconnection customer is advised to consider obtaining appropriate insurance coverage to cover the interconnection customer's potential liability under this agreement.

CUSTOMER SIGNATURE

I hereby certify that: 1) I have read and understand the terms and conditions which are attached hereto by reference and are a part of this Agreement; 2) I hereby agree to comply with the attached terms and conditions; and 3) to the best of my knowledge, all of the information provided in this application request form is complete and true. I consent to permit the PSC and interconnecting utility to exchange information regarding the generating system to which this application applies.

Interconnection Customer Signature: Willard J. Pierce Date: 9/1/15

Printed Name: Willard Pierce Title: Homeowner

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PART 2

DELAWARE LEVEL 2, 3, & 4 INTERCONNECTION APPLICATION & AGREEMENT

With Terms and Conditions for Interconnection
(Review of Small Generator Facilities Less than or Equal to 10 MW[15])

(Final Agreement –must be completed after installation and prior to interconnection)

Certificate of Completion[16]

INTERCONNECTION CUSTOMER CONTACT INFORMATION

Customer Name: Willard Pierce

Mailing Address: 205 Single Ave

City: New Castle State: DE Zip Code: 19720

Telephone (Daytime): 3024442499 (Evening): _____

Fax Number: _____ E-Mail Address: leonorasanders@yahoo.com

FACILITY INFORMATION

Facility Address: 205 Single Ave

City: New Castle State: DE Zip Code: 19720

DPL Account #: 5500 3394 487 Meter #: NXA076466705 (Required by DPL)

Energy Source: solar Prime Mover:

Inverter Type: Forced Commutated ☐ Line Commutated ☒ Number of Inverters: 2

Inverter Manufacturer: ABB Model Number(s) of Inverter: PVI-6000-OUTD-US-Z-A-RGM PVI-4.2-OUTD-S-US-Z-A-RGM

Rating

DC Generator Total[17] Nameplate Rating: 11.70 (kW),
AC Inverter Total[18] Rating 10.20 kW (kW),
AC System Design Total Capacity[19]: 10.31 (kW) _____ (kVA)

Generator (or PV Panel) Manufacturer, Model #: SolarCity Certified Advantage Module 300

[15] Up to 2 MW for Net Energy Metering.
[16] Information entered here on Certificate of Completion (Part 2) must match part 1
[17] Sum of all generators or PV Panels
[18] Sum of all inverters
[19] This will be your system design capacity based upon your unique system variables.

EQUIPMENT INSTALLATION CONTRACTOR Owner (Customer) Installed: ☐Yes ☒No

Name: SolarCity DBA Tesla Energy

Mailing Address: 6671 Las Vegas Blvd South, Suite 300

City: Las Vegas State: NV Zip Code: 89119

Contact Person:

Telephone (Daytime): 702-703-8951 (Evening):

Fax Number: E-Mail Address: Interconnection.DE@tesla.com

FINAL ELECTRIC INSPECTION AND INTERCONNECTION CUSTOMER SIGNATURE

The Small Generator Facility is complete and has been approved by the local electric inspector having jurisdiction. A signed copy of the electric inspector's form indicating final approval is attached. The Interconnection Customer acknowledges that it shall not operate the Small Generator Facility until receipt of the final acceptance and approval by the EDC as provided below.

Signed: Willard Pierce Date 3/8

(Signature of interconnection customer)

Printed Name: Willard Pierce

Check if copy of signed electric inspection form is attached (required) ☐

Check if copy of as built documents is attached (projects larger than 10 kW only) ☐

.....

ACCEPTANCE AND FINAL APPROVAL FOR INTERCONNECTION ***(for EDC use only)***

The interconnection agreement is approved and the Small Generator Facility is approved for interconnected operation upon the signing and return of this Certificate of Completion by EDC:

Electric Distribution Company waives Witness Test? *(Initial)* Yes (LH) No (_____)
If not waived, date of successful Witness Test: _____ Passed: *(Initial)* (_____)

EDC Signature: Lakeisha Harris Date: 03/16/2018

Printed Name: Lakeisha Harris Title: Acct Rep

MIDDLE DEPARTMENT INSPECTION AGENCY, INC.

Certifies that the electrical wiring to the electrical equipment listed below has been examined and is approved as being in accord with the National Electrical Code, applicable governmental, utility and Agency rules in effect on the date noted below and is issued subject to the following conditions.

Owner: Pierce

Date: 03/01/2018

Occupant: same

Location: 205 Single Av
New Castle, New Castle Co. DE

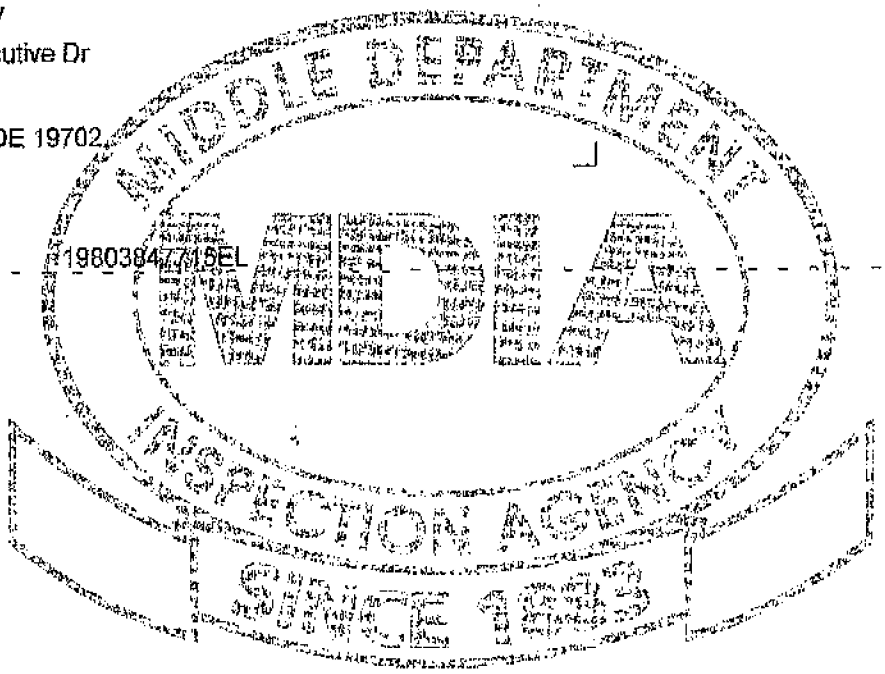
Occupancy: Single Family Dwg.

Applicant: Solar City
231 Executive Dr
Ste 1
Newark DE 19702

No. 19803847715EL

Equipment:

11.7 KW Solar System



This certificate applies to the electrical wiring to the electrical equipment listed above and the installation inspected as of the above noted date based on a visual inspection. No warranty is expressed or implied as to the mechanical safety, efficiency or fitness of the equipment for any particular purpose. This certificate shall be valid for a period of one year from the above noted date. Should the electrical system to which this certificate applies be altered in any way, including but not limited to, the introduction of additional electrical equipment and/or the replacement of any of the components installed as of the above noted date, this certificate shall be immediately null and void. This certificate applies only to the use, occupancy and ownership as indicated herein. Upon a change in the use, occupancy or ownership of the property indicated above, this certificate shall be immediately null and void. In the event that this certificate becomes invalid based upon the above conditions, this certificate may be revalidated upon reinspection by Middle Department Inspection Agency, Inc. An application for inspection must be submitted to Middle Department Inspection Agency, Inc. to initiate the inspection and revalidation process. A fee will be charged for this service.